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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

MAILED

SEP 1 8 2006

GROUP 1700

Application Number: 09/661,617
Filing Date: September 14, 2000
Appellant(s): SPIEGELMAN, JEFFREY J.

M.L. Wakimura
Hamilton, Brook, Smith & Reynolds
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 5/26/2006 appealing from the Office action mailed 1/10/2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The grounds of rejection to be reviewed on appeal is presented in the final office action mailed 1/10/2006.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,873,263	Chang	2-1999
5,315,521	Hanson et al.	5-1994
6,182,275	Beeliz et al.	1-2001

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1 and 3 – 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang (U.S. Pat. No. 5,873,263 A) in view of Hanson *et al.* (U.S. Pat. No. 5,315,521 A), and further in view of Beelitz *et al.* (U.S. Pat. No. 6,182,275 B1).

Regarding claims 1, 14, 28 and 29, Chang teaches a fluid purification system, which comprises various types of equipment, such as a filter device (4), a transfer pump (51), a piping system (5), various sensors (56), a cooling vessel (1), a distillation device (6), *etc.* (see col. 3, lines 27 – 67; col. 4, lines 1 – 16; & figures 3 – 5). Chang does not specifically teach the optimization of the disclosed system. However, the optimization of fluid purification systems through process equipment selection and operation is notoriously well known in the art, as

evidenced, for example, by Hanson *et al.* (see col. 1, lines 55 – 67). Therefore, it would have been obvious to one of ordinary skill in the art to optimize the fluid purification system, as taught by Chang, through the use of optimization techniques well known in the art, in order to facilitate the efficient and effective operation of the fluid purification system.

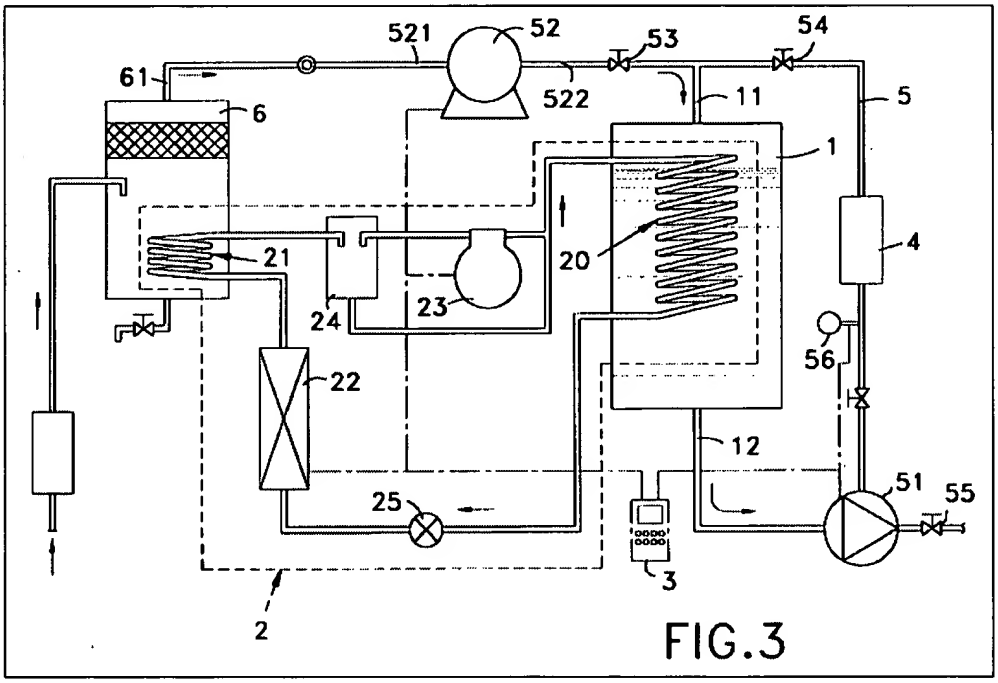

FIG.3

Chang does not specifically teach a computer-implemented method for identifying fluid purification equipment, which is optimized for use in a particular fluid purification system, wherein the method comprises the steps of: providing a relational database of equipment specifications regarding a plurality of equipment components from which a selection of individual components may be made; providing access to the relational database through an interactive interface of an operating system comprising a series of sequential inquiries, wherein the response to each determines the next type of inquiry to be posed or a component to be specified, wherein the inquiries elicit defining information regarding the particular fluid purification system; and using the defining information to identify those equipment components

specific to the particular fluid purification system selected, can be operated so as to optimize the selected fluid purification system. However, Beelitz *et al.* teach a computer-implemented method incorporating the use of a computer system readable relational database and an interactive user interface in configuring, building and selling a customizable computer system (see col. 2, lines 20 – 67; col. 3, lines 32 – 43; & col. 4, lines 5 – 62). **The Courts have held that "[a] reference is reasonably pertinent if, even though it may be in a different field of endeavor, it is one which, because of the subject matter with which it deals logically would have commended itself to an inventor's attention in considering his problem."** (emphasis added). See *In re Clay*, 23 USPQ2d 1058 (CAFC 1992); & *In re GPAC, Inc.*, 35 USPQ2d 1116 (Fed. Cir. 1995). **If a reference disclosure relates to the same problem as that addressed by the claimed invention, "that fact supports use of that reference in an obviousness rejection. An inventor may well have been motivated to consider the reference when making his invention."** *Id.* (emphasis added). The Beelitz *et al.* reference relates effectively to the same problem and solution as that addressed by the claimed invention. Hence, one of ordinary skill in the art would have recognized the suitability of applying the same or similar method, as disclosed by Beelitz *et al.*, incorporating the use of relational databases and an interactive interface, for the same intended purpose of configuring, building and selling a similarly customizable product, such as a fluid purification system, as taught by Chang (see MPEP § 2144.07). Furthermore, one of ordinary skill in the art would have had a reasonable expectation of success in applying the methodology, as taught by Beelitz *et al.*, in the configuring and selling of a customizable fluid purification system (see MPEP § 2143.02). The Courts have held that the prior art can be modified or combined to reject claims as *prima facie* obvious as long as

there is a reasonable expectation of success. See *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In addition, the Courts have held that to provide an automatic or mechanical means to replace manual activity, which accomplishes the same result, is within the ambit of one of ordinary skill in the art. See *In re Venner*, 120 USPQ 192 (CCPA 1958). The use of such a computer system-based method, as taught by Chang in view of Beelitz *et al.*, merely substitutes or replaces a manual methodology of consulting print references, such as operating manuals or equipment catalogs, in process design and optimization, which are well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art to provide a method for identifying fluid purification equipment, which is optimized for use in a particular fluid purification system, wherein the method comprises the steps of: providing a relational database of equipment specifications regarding a plurality of equipment components from which a selection of individual components may be made; providing access to the relational database through an interactive interface of an operating system comprising a series of sequential inquiries, wherein the response to each determines the next type of inquiry to be posed or a component to be specified, wherein the inquiries elicit defining information regarding the particular fluid purification system; and using the defining information to identify those equipment components specific to the particular fluid purification system selected, can be operated so as to optimize the selected fluid purification system, in order to provide an effective method for identifying fluid purification equipment for an optimized fluid purification system. It would have been obvious to one of ordinary skill in the art to incorporate within the method further inquiries, which elicit defining information regarding the operating parameters of the fluid purification system, as such information would be necessary in order to optimize the system

effectively, as is well known in the art. Regarding the newly added amendment reciting that the method of identifying the fluid purification equipment is performed in a manner free of the user selecting individual components, Beelitz *et al.* do teach and fairly suggest such a methodology. Beelitz *et al.* do teach that instead of offering the user an explicit choice of an individual component, the disclosed method automatically determines the parameters of the hardware components, such as computer RAM size and the computer operating system (see col. 18, line 45 – col. 19, line 19). Consequently, a person of ordinary skill in the art would have had a reasonable expectation of success of incorporating a method step of automatically identifying components in a manner that is free of the user selecting individual components (see MPEP § 2143.02). Therefore, it would have been obvious to a person of ordinary skill in the art to incorporate a methodology of automatically identifying a set of compatible components that is performed in a manner free of permitting the user to select individual components.

Regarding claim 3, it would have been obvious to one of ordinary skill in the art to incorporate the selection of equipment operating parameters, such as fluid type and flow rate, as such information would be necessary in order to optimize the system effectively, as is well known in the art. Regarding claims 4 and 5, Beelitz *et al.* teach that a first database or first list of options comprises a plurality of subdatabases or a second list of options, wherein each of the second plurality of options is compatible with the first selected option choice (see col. 2, lines 20 – 67). Therefore, in applying the method of Beelitz *et al.*, it would have been obvious to one of ordinary skill in the art to provide a subdatabase comprising selection information regarding at least one property of at least one of the equipment components of the fluid purification system in

order to facilitate operational compatibility of the equipment components comprising the fluid purification system and including the optimization of the performance of the system.

Regarding claim 6, Beelitz *et al.* teach that the subdatabases or secondary plurality of options are addressed sequentially. Beelitz *et al.* teach that the method comprises the steps of providing a user interface comprising a first list of options, receiving from the user interface an indication of a selected choice from the first list of options presented to the user via the user interface, and then generating a second list of options (see col. 2, lines 52 – 67).

Regarding claim 7, Beelitz *et al.* teach that the entry for each option of the list includes an indication of compatibility with the selected operating system. Each option of the second list is compatible with the selected choice selected from the first plurality of options (see col. 2, lines 20 – 67). Therefore, it would have been obvious to one of ordinary skill in the art to incorporate a method step wherein the compilation of a series of component equipment selections further causes the computer operating system to generate a subsequent series of inquiries regarding the choice of equipment components which are compatible or ancillary to the fluid purification system in order to provide for an optimally performing fluid purification system.

Regarding claim 8, Chang teaches that the purification system comprises fluid flow (*e.g.*, piping system 5), process control (*e.g.*, sensor 56) and instrumentation equipment (*e.g.*, heating device 21) (see col. 3, lines 36 – 67 & col. 4, lines 1 – 16). It would have been obvious to one of ordinary skill in the art to incorporate the selection of such equipment in order to facilitate the effective design and optimization of the fluid purification process.

Regarding claim 9, Beelitz *et al.* teach the incorporation of cost information for indicating the cost of the particular system component part and including stock number

information for indicating the number of parts in inventory (see col. 17, lines 49 – 61). Therefore, it would have been obvious to one of ordinary skill in the art to further incorporate data for evaluating from each of the responses from the user whether a defined equipment component is currently in inventory and available and if not, what the manufacturing costs would be for the particular equipment component, in order to facilitate effective fluid purification system design and optimization.

Regarding claim 10, Beelitz *et al.* teach that the entry for each option of the first list includes an indication of compatibility with the selected operating system and wherein each option of the generated second list is compatible with the selected choice selected from the first plurality of options (see col. 2, lines 20 – 67& col. 3, lines 1 – 43). Therefore, it would have been obvious to one of ordinary skill in the art to further incorporate equipment selection information, which comprises data for evaluating from each of the responses whether combinations of defined equipment components are operationally compatible and presenting an indication or notification thereof, in order to facilitate effective fluid purification system design and optimization.

Regarding claims 11 and 12, Beelitz *et al.* teach the step of generating a list of compatible options based upon at least one selected choice by a user from a first list of options (see col. 2, lines 20 – 67 & col. 3, lines 1 – 43). Therefore, it would have been obvious to one of ordinary skill in the art to further provide a notification including a suggested list of options for alternative compatible equipment combinations for the system, in order to provide for the effective design and optimization of the fluid purification system. Regarding claim 13, it is considered a latent property that each of the different equipment combinations would have differ

from each other with respect to technical parameters, such as required flow rate and operating pressure, and economic parameters, such as manufacturing and operating cost. It would have been obvious to one of ordinary skill in the art to incorporate different combinations of equipment, which differ with respect to technical and economic parameters, and wherein the method further comprises the step of generating a further inquiry, in which the response to the inquiry indicates a selection among the equipment combinations a specific equipment combination having the technical and economic parameters most suitable for obtaining an optimized fluid purification within the fluid purification system, in order to provide for an optimized fluid purification process.

Regarding claim 15, Chang does teach the use of filtering during fluid purification and recovery (see col. 4, lines 10 – 16). The removal of contaminants to a prescribed level in a parts per million or parts per billion range is considered a latent property of the disclosed fluid purification system. It would have been obvious to one of ordinary skill in the art to incorporate the use of an operating parameter, such as a prescribed contaminant level, in order to properly design and optimize the fluid purification process.

Regarding claim 16, Chang teaches that the purification process comprises separation or filtration (see Abstract).

Regarding claim 17, Beelitz *et al.* teach that access to the system is provided by means of a computer through a global computer network, such as the internet (see Abstract).

Regarding claims 18 – 27 and 29, Beelitz *et al.* teach the computer system-based apparatus, as recited in the instant claims, for performing the claimed method. Regarding claims 18 and 19, Beelitz *et al.* teach an apparatus comprising an electronic media, which can comprise

the claimed method in a form accessible for interactive use, such as in the form of a software program, and further comprising a relational database (see col. 2, lines 9 – 51).

Regarding claims 20 – 22, Beelitz *et al.* teach that the relational database may comprise a plurality of subdatabases, such as a secondary plurality of option listings. It would have been obvious to one of ordinary skill in the art to utilize the computer system, as taught by Beelitz *et al.*, in implementing the method, as taught by Chang in view of Beelitz *et al.*, since these computer systems are notoriously well known in the art for implementing such methods, as evidenced by Beelitz *et al.*

Regarding claims 23 and 24, Beelitz *et al.* teach that the computer system incorporates the use of an interactive storage media, such as a memory hard drive, CD-ROM drive or a DVD drive, disposed within the computer system (see col. 1, lines 36 – 55).

Regarding claim 25, Beelitz *et al.* teach that the computer system comprises a desktop computer, a portable notebook or laptop computer, or an internet-access-specific computer (see col. 1, lines 36 – 55).

Regarding claims 26 and 27, Beelitz *et al.* teach that the electronic media comprises a global computer network, such as a computer system having access to a communications network and to the internet (see col. 1, lines 36 – 55; & col. 3, lines 32 – 43). The use of internet websites in conducting commercial transactions are notoriously well known in the art (see MPEP § 2144.03).

(10) Response to Argument

Regarding the rejection of claims 1 and 3 – 29 under 35 U.S.C. 103(a) as being unpatentable over Chang in view of Hanson *et al.*, and further in view of Beelitz *et al.*,

applicant's arguments, filed 5/26/2006, have been fully considered, but they are not persuasive. As discussed above, Chang in view of Hanson *et al.*, and further in view of Beelitz *et al.* teach the claimed invention. The applicant alleges that the teachings of the combined references do not render the claimed invention as obvious. The applicant essentially argues that Beelitz *et al.* do not teach the identical or similar claimed methodology. In response to applicant's arguments against the Beelitz *et al.* reference individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Regarding Beelitz *et al.*, the specification of, for example, the desired use of a processer speed would be inherently dependent on the type of CPU, which would necessitate a computer having the appropriate compatible RAM size and type (see col. 15, lines 46 – 65). The computer system does not necessarily have to be already existing, but in the process of being ordered by the user and configured. Beelitz *et al.* teach that by presenting the user via a user interface with only compatible choices, the user does not have to be sophisticated in the language of computer equipment or computer software programs to be able to specify and/or order a build-to-order computer system (see col. 3, lines 32 – 43). The computer system would inherently comprise specific equipment components not directly selected by the user during configuration. The applicant asserts that the claimed invention does not directly ask the operator to select a particular piece of equipment; rather, they ask about the uses and needs of the target surrounding fluid purification system or complete fluid purification equipment "package," such as, for example, asking the operator to identify the specific gas which is to be purified, whether it is a corrosive or inert gas (see applicant's specification, p. 10 first paragraph as

originally filed). As discussed above, Beelitz *et al.* is pertinent to the same problem of providing an automated design methodology, which relies on a users specific requirements. In comparison to the teachings of Beelitz *et al.*, as discussed above, the questions, for example, would ask about what type of software applications that the user would like to run using the computer system. The answers to these questions would thereby affect which hardware components would be required, which would not necessarily be selected by the user, since compatible secondary choices are automatically selected depending on the first choices made or questions asked. This methodology could be adapted by a person of ordinary skill in the art to other methods of generating a custom-built system utilizing an interactive system. The Court has recognized that an artisan is presumed to have skill, rather than lack of skill. See *In re Sovish*, 226 USPQ 771 (Fed. Cir. 1985). The rationale to support an obviousness rejection under 35 U.S.C. 103 may rely on logic and sound scientific principle (see MPEP § 2144.02). The initial specification of a processor speed or CPU to be utilized with a computer system is tantamount to specifying a process operating parameter, such as type of gas processed, operating temperature or transfer pump flow rate, for fluid purification in Chang. As discussed previously, as evidenced by Hanson *et al.*, the design and utilization of optimized chemical processes are notoriously well known in the art (see MPEP § 2144.03). The specification of these aforementioned chemical process parameters would inherently affect which type of specific equipment components would be utilized in the overall optimized process. As evidenced by Beelitz *et al.*, a person of ordinary skill in the art would accordingly have had a reasonable expectation for success in utilizing such automated method as providing in the instant claims in designing a custom-built system based upon user requirements and specifications. The Courts have held that the prior art can be

modified or combined to reject claims as *prima facie* obvious as long as there is a reasonable expectation of success. See *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986) (see MPEP § 2143.02). Therefore, it would have been obvious to a person of ordinary skill in the art to contemplate the claimed methodology, wherein the automatic identification of the fluid purification equipment package in its entirety is performed in a manner free of user selection of the individual equipment components.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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